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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,043	01/20/2004	Pei Hsuon Chan	148045NM	1192
7590	07/19/2005			EXAMINER SHRIVASTAV, BRIJ B
Dean D. Small Armstrong Teasdale LLP Suite 2600 One Metropolitan Square St. Louis, MO 63102			ART UNIT 2859	PAPER NUMBER
DATE MAILED: 07/19/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/761,043	CHAN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Brij B. Shrivastav	2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 28 April 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-17 and 21-25 is/are rejected.
- 7) Claim(s) 18-20 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date: _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

3. Applicant's amendment dated April 28, 2005 has been received and entered. Claims 1, 9 and 25 have been amended. The pending claims in the application are 1-25. Examiner disagrees with applicant's remarks stated on pages 8 and 9 relating to rejection of claims 1, 9 and 25. Cited art in the Office action still reads on these claims, as the overlapping sections of two elliptical planes defined by the two coils is applicant's required middle section. Rejection of Claims 1-25 follows:

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-14, 16 and 21-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Hanawa (US 4,767,993).

As regards to claim 1, Hanawa teaches a coil for medical imaging system, including a first section and a second section. Either of the coils 31b or 32b is arranged in a diagonal arrangement across an imaging axis, and have two sections; the upper and lower sections (figure 4, numerals 31 and 32); the first and the second sections are forming a loop (figure 4, numeral 31a or 31b, column 5, lines 10-25).

As regards to claims 2-8, the applicant's attention is directed to figures 1 and 3, wherein an rf coil for magnetic resonance imaging having limitations of a loop coil, a

saddle coil, and having upper, lower and middle sections of the coil configured in diagonal arrangement is presented in figure 1, 3 (columns 3-5).

As regards to claims 9 and 25 Hanawa teaches a system and a method for medical imaging (figure 1; column 1 and 2, lines 5- 68 and 1-11), including a first coil and a second coil, wherein each of the coil is configured in a different diagonal arrangement, and wherein each of the first and second coil include a middle section with the middle section of each of the first and second coil overlapping (figure 4; numerals 31b and 32b; column 5, lines 10-38).

As regards to claims 10-14, 16 and 21- 24, the applicant's attention is directed to figures 1, 2 and 4, wherein invention limitations of upper, lower and middle section of the coils in quadrature arrangement and spaced diagonally for use in a magnetic resonance imaging system are further provided with different configuration arrangements and overlaps, and with gaps (columns 3 and 5, lines 18-53 and 1025).

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanawa (US 4,767,993) as applied to claim 9 above, and further in view of Molyneaux et al (US 6,836,118).

As regards to claims 15 and 17, Hanawa does not further teach separate channels for MRI system. However, Molyneaux et al teach two separate channels for MRI system. It would have been obvious to one of ordinary skill to adapt two channel system of Molyneaux et al with the MRI system of Hanawa to improve signal to noise ratio of the signals received improving image quality.

6. Claims 18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Applicant is reminded to the following pertinent art, which is also equally applicable to reject claims 1-17 and 21-25:

US 5,185,577;US 4,766,383;US 5,394,087;US 6,894,496;US 2004/0061498 A1.

8. Claims 1,9 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Molyneaux (US 5,394,087).

As regards to claim 1, Molyneaux teaches a coil for medical imaging system, including a first section and a second section (figures 8 and 9), wherein the first section and second section forming a loop and configured in a diagonal arrangement (figure 9, numeral 54; column 5, lines 31-36).

As regards to claims 9 and 25, Molyneaux teaches a system and a method for medical imaging (figure 1), including a first coil and a second coil, both configured in diagonal arrangement, wherein the diagonal arrangement of the first coil is in a direction different than the diagonal arrangement of the second coil, and each of the first and

second coil includes a middle section with the middle section of each of the first and second coil overlapping (figure 9, numeral 54).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brij B. Shrivastav whose telephone number is 571-272-2250. The examiner can normally be reached on 7 AM to 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F. F. Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

July 12, 2005



Brij B Shrivastav  
Examiner  
Art Unit 2859

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